```
      FILE 'REGISTRY' ENTERED AT 17:10:57 ON 02 SEP 2008
              EXP ASPARAGINE/CN
L1            2 S E3

      FILE 'HCAPLUS' ENTERED AT 17:11:13 ON 02 SEP 2008
L2        18606 S L1
L3            1 S DISIALOUNDECA?
L4       228020 S FATTY ACID
L5            0 S L2 AND L3 AND L4
L6          253 S L2 AND L4
L7        48927 S SIAL?
L8            1 S L6 AND L7
L9        49425 S SIAL? OR DISIAL?
L10           1 S L2 AND L4 AND L9
L11         167 S L2 AND L9
L12         134 S L11 AND (PY<2004 OR AY<2004 OR PRY<2004)
L13      138568 S AMIDE
L14           2 S L12 AND L13

      FILE 'HCAPLUS' ENTERED AT 17:29:03 ON 02 SEP 2008
L15     4664798 S ACID
L16          92 S L12 AND L15

      FILE 'HCAPLUS' ENTERED AT 17:30:17 ON 02 SEP 2008
L17      157350 S CAPRIC OR LAURIC OR MYRISTIC OR PALMITIC OR STEARIC OR ARACHI
L18           0 S L16 AND L17

      FILE 'HCAPLUS' ENTERED AT 17:30:38 ON 02 SEP 2008
L19           0 S L12 AND L17
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=> file registry
COST IN U.S. DOLLARS                                      SINCE FILE      TOTAL
                                                          ENTRY         SESSION
FULL ESTIMATED COST                                        0.21           0.21

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provided by InfoChem.

STRUCTURE FILE UPDATES:    1 SEP 2008  HIGHEST RN 1045602-82-1
DICTIONARY FILE UPDATES:   1 SEP 2008  HIGHEST RN 1045602-82-1

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TSCA INFORMATION NOW CURRENT THROUGH July 5, 2008.

   Please note that search-term pricing does apply when
   conducting SmartSELECT searches.

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predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> exp asparagine/cn
E1          1      ASPARAGINASE/GLUTAMINASE (SALINISPORA TROPICA STRAIN CNB-440
                   )/CN
E2          1      ASPARAGINASE/GLUTAMINASE (THIOMICROSPIRA CRUNOGENA STRAIN XC
                   L-2)/CN
E3          2 -->  ASPARAGINE/CN
E4          1      ASPARAGINE (GLUTAMINE) SYNTHETASE/CN
E5          1      ASPARAGINE -- TRNA LIGASE (PLASMODIUM FALCIPARUM STRAIN 3D7
                   GENE PFB0525W)/CN
E6          1      ASPARAGINE ACID/CN
E7          1      ASPARAGINE AMIDE/CN
E8          1      ASPARAGINE AMIDE HYDROBROMIDE/CN
E9          1      ASPARAGINE AMIDOHYDROLASE (DIROFILARIA IMMITIS CLONE L3MC4)/
                   CN
E10         1      ASPARAGINE AMINOTRANSFERASE/CN
E11         1      ASPARAGINE ANHYDRIDE/CN
E12         1      ASPARAGINE BENZYL ESTER HYDROCHLORIDE/CN

=> s e3
L1          2 ASPARAGINE/CN

=> file hcaplus
COST IN U.S. DOLLARS                                      SINCE FILE      TOTAL
                                                          ENTRY         SESSION
FULL ESTIMATED COST                                        5.61           5.82

FILE 'HCAPLUS' ENTERED AT 17:11:13 ON 02 SEP 2008
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FILE COVERS 1907 - 2 Sep 2008 VOL 149 ISS 10
FILE LAST UPDATED: 1 Sep 2008 (20080901/ED)

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the second quarter of 2008.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

```
=> s l1
L2       18606 L1

=> s disialoundeca?
L3           1 DISIALOUNDECA?

=> s fatty acid
        408232 FATTY
       4664798 ACID
L4      228020 FATTY ACID
               (FATTY(W)ACID)

=> s l2 and l3 and l4
L5           0 L2 AND L3 AND L4

=> s l2 and l4
L6         253 L2 AND L4

=> s sial?
L7       48927 SIAL?

=> s l6 and l7
L8           1 L6 AND L7

=> d l8 ti absbib
'ABSBIB' IS NOT A VALID FORMAT FOR FILE 'HCAPLUS'

The following are valid formats:

ABS --------- GI and AB
ALL --------- BIB, AB, IND, RE
APPS -------- AI, PRAI
BIB --------- AN, plus Bibliographic Data and PI table (default)
CAN --------- List of CA abstract numbers without answer numbers
CBIB -------- AN, plus Compressed Bibliographic Data
CLASS ------- IPC, NCL, ECLA, FTERM
DALL -------- ALL, delimited (end of each field identified)
DMAX -------- MAX, delimited for post-processing
FAM --------- AN, PI and PRAI in table, plus Patent Family data
```

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FBIB -------- AN, BIB, plus Patent FAM
IND --------- Indexing data
IPC --------- International Patent Classifications
MAX --------- ALL, plus Patent FAM, RE
PATS -------- PI, SO
SAM --------- CC, SX, TI, ST, IT
SCAN -------- CC, SX, TI, ST, IT (random display, no answer numbers;
              SCAN must be entered on the same line as the DISPLAY,
              e.g., D SCAN or DISPLAY SCAN)
STD --------- BIB, CLASS

IABS -------- ABS, indented with text labels
IALL -------- ALL, indented with text labels
IBIB -------- BIB, indented with text labels
IMAX -------- MAX, indented with text labels
ISTD -------- STD, indented with text labels

OBIB -------- AN, plus Bibliographic Data (original)
OIBIB ------- OBIB, indented with text labels

SBIB -------- BIB, no citations
SIBIB ------- IBIB, no citations

HIT --------- Fields containing hit terms
HITIND ------ IC, ICA, ICI, NCL, CC and index field (ST and IT)
              containing hit terms
HITRN ------- HIT RN and its text modification
HITSTR ------ HIT RN, its text modification, its CA index name, and
              its structure diagram
HITSEQ ------ HIT RN, its text modification, its CA index name, its
              structure diagram, plus NTE and SEQ fields
FHITSTR ----- First HIT RN, its text modification, its CA index name, and
              its structure diagram
FHITSEQ ----- First HIT RN, its text modification, its CA index name, its
              structure diagram, plus NTE and SEQ fields
KWIC -------- Hit term plus 20 words on either side
OCC --------- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field
codes.  For a list of the display field codes, enter HELP DFIELDS at
an arrow prompt (=>).  Examples of formats include: TI; TI,AU; BIB,ST;
TI,IND; TI,SO.  You may specify the fields in any order and the
information will be displayed in the same order as the format
specification.

All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR,
FHITSTR, HITSEQ, FHITSEQ, KWIC, and OCC) may be used with DISPLAY ACC
to view a specified Accession Number.
ENTER DISPLAY FORMAT (BIB):ti abs bib

L8    ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2008 ACS on STN
TI    The glycan structure of albumin Redhill, a glycosylated variant of human
      serum albumin
AB    Although human serum albumin is synthesized without carbohydrate,
      glycosylated variants of the protein can be found.  We have determined the
      structure of the glycan bound to the double-mutant albumin Redhill (-1
      Arg, 320 Ala-Thr).  The oligosaccharide was released from the protein
      using anhydrous hydrazine, and its structure was investigated using
      neuraminidase and a reagent array anal. method, which is based on the use
      of specific exoglycosidases.  The glycan was shown to be a disialylated
      biantennary complex type oligosaccharide N-linked to 318 Asn.  However, a
```

minor part (11 mol%) of the glycan was without sialic acid. The
structure is principally the same as that of glycans bound to two other
types of glycosylated albumin variants. Glycosylation can affect, for
example, the fatty acid binding properties of albumin.
Taking the present information into account, it is apparent that different
effects on binding are caused not by different glycan structures but by
different locations of attachment, with the possible addition of local
conformational changes in the protein mol.
AN   2001:884107 HCAPLUS <<LOGINID::20080902>>
DN   136:179567
TI   The glycan structure of albumin Redhill, a glycosylated variant of human
      serum albumin
AU   Kragh-Hansen, Ulrich; Donaldson, David; Jensen, Poul Henning
CS   Department of Medical Biochemistry, University of Aarhus, Aarhus, DK-8000,
      Den.
SO   Biochimica et Biophysica Acta, Protein Structure and Molecular Enzymology
      (2001), 1550(1), 20-26
      CODEN: BBAEDZ; ISSN: 0167-4838
PB   Elsevier B.V.
DT   Journal
LA   English
RE.CNT 23   THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his

      (FILE 'HOME' ENTERED AT 17:10:48 ON 02 SEP 2008)

      FILE 'REGISTRY' ENTERED AT 17:10:57 ON 02 SEP 2008
               EXP ASPARAGINE/CN
L1   2 S E3

      FILE 'HCAPLUS' ENTERED AT 17:11:13 ON 02 SEP 2008
L2   18606 S L1
L3   1 S DISIALOUNDECA?
L4   228020 S FATTY ACID
L5   0 S L2 AND L3 AND L4
L6   253 S L2 AND L4
L7   48927 S SIAL?
L8   1 S L6 AND L7

=> log hold
COST IN U.S. DOLLARS   SINCE FILE   TOTAL
                                                       ENTRY   SESSION
FULL ESTIMATED COST   8.29   14.11

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)   SINCE FILE   TOTAL
                                                       ENTRY   SESSION
CA SUBSCRIBER PRICE   -0.80   -0.80

 SESSION WILL BE HELD FOR 120 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 17:12:14 ON 02 SEP 2008

Connecting via Winsock to STN

Welcome to STN International! Enter x:X

```
LOGINID:SSPTAEXO1623

PASSWORD:
 * * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'HCAPLUS' AT 17:26:45 ON 02 SEP 2008
FILE 'HCAPLUS' ENTERED AT 17:26:45 ON 02 SEP 2008
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COST IN U.S. DOLLARS                              SINCE FILE      TOTAL
                                                     ENTRY      SESSION
FULL ESTIMATED COST                                   8.29       14.11

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)        SINCE FILE      TOTAL
                                                     ENTRY      SESSION
CA SUBSCRIBER PRICE                                  -0.80       -0.80

=> s sial? or disial?
        48927 SIAL?
         1174 DISIAL?
L9       49425 SIAL? OR DISIAL?

=> s l2 and l4 and l9
L10          1 L2 AND L4 AND L9

=> s l2 and l9
L11        167 L2 AND L9

=> s l11 and (PY<2004 or AY<2004 or PRY<2004)
     24009542 PY<2004
      4785121 AY<2004
      4256259 PRY<2004
L12        134 L11 AND (PY<2004 OR AY<2004 OR PRY<2004)

=> s amide
L13    138568 AMIDE

=> s l12 and l14
L14 NOT FOUND
The L-number entered could not be found.  To see the definition
of L-numbers, enter DISPLAY HISTORY at an arrow prompt (=>).

=> s l12 and l13
L14          2 L12 AND L13

=> d l14 1-2 ti abs bib

L14   ANSWER 1 OF 2  HCAPLUS  COPYRIGHT 2008 ACS on STN
TI    Characterization of N-linked oligosaccharides attached to recombinant
      human antithrombin expressed in the yeast Pichia pastoris
AB    We studied the structures of four N-linked oligosaccharide chains of the
      recombinant human antithrombin (rAT) expressed in the yeast Pichia
      pastoris.  RAT was fully glycosylated at Asn 96 and Asn 155, whereas the
      glycosylation on Asn 135 and Asn 192 was partial.  The glycosylation level
      on Asn 135 was only 12% and this reduction is assumed to be one of the reasons
      for a higher heparin-binding affinity of rAT than plasma-derived human
      antithrombin (pAT).  In order to determine the sizes and electrostatic charges
      of the N-linked oligosaccharides, rAT was treated with PNGase F, and the
      reduced ends were labeled by pyridylamination followed by anal. using
      anion exchange and amide adsorption columns.  The N-linked
      oligosaccharides were 78% neutral and 22% phosphomannosylated.  The
      neutral oligosaccharides were thought to be Man9-12GlcNAc2 as their major
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       components.  The phosphomannosylated oligosaccharides were then subjected
       to mild acid hydrolysis and/or digestion with alkaline phosphatase, and their
       charge shifts were analyzed by the affinity to an anion exchange column.
       Among phosphomannosylated oligosaccharides, monophosphate diester type was
       predominant, whereas neg. charged diphosphate diester and monophosphate
       monoester types were minor components.  The mannose residues at the
       non-reducing end(s) of Man9-12GlcNAc2 were phosphomannosylated or
       phosphorylated and these are the major components.  Because rAT is less
       neg. charged than pAT, which has disialyl biantennary N-glycans,
       it might be less repulsive to pentasaccharide-bearing anticoagulantly
       active heparan sulfate proteoglycan mols. exposed on the surface of the
       damaged vascular vessels.
AN     2002:813772  HCAPLUS <<LOGINID::20080902>>
DN     138:51890
TI     Characterization of N-linked oligosaccharides attached to recombinant
       human antithrombin expressed in the yeast Pichia pastoris
AU     Hirose, Masaaki; Kameyama, Shoju; Ohi, Hideyuki
CS     Protein Research Laboratory, Pharmaceutical Research Division, Mitsubishi
       Pharma Corporation, Osaka, 573-1153, Japan
SO     Yeast (2002), 19(14), 1191-1202
       CODEN: YESTE3; ISSN: 0749-503X
PB     John Wiley & Sons Ltd.
DT     Journal
LA     English
RE.CNT  43     THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD
               ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14   ANSWER 2 OF 2  HCAPLUS  COPYRIGHT 2008 ACS on STN
TI     Oligosaccharide units of rabbit immunoglobulin G.  Multiple carbohydrate
       attachment sites
AB     The carbohydrate structure of rabbit immunoglobulin G isolated from pooled
       serums was determined  Amino sugar anal. of fragments of the mol. showed 3
       oligosaccharides located at separate sites on the H-chain and the
       corresponding glycopeptides were isolated.  The average composition of the
       Cl-oligosaccharide, present on .apprx.15% of the  H-chains, was 2
       glucosamine, 2 mannose, and 1 galactose residues; the carbohydrate was
       coupled through the amide group of asparagine in a peptide
       containing asparagine, glycine, and threonine within the Fd fragment of the
       mol.  The average composition of the C2-oligosaccharide, present on .apprx.40%
of
       the  H-chains, was 1 galactosamine, 1 galactose, and either 1 or 2
       sialic acid residues; it was attached glycosidically to the OH
       group of threonine in a peptide Ser-Lys-Pro-Thr-Cys-Pro-Pro-Pro-Glu-Leu in
       the hinge region of the mol.  The average composition of the
C3-oligosaccharide,
       present in all the H-chains, was 5 glucosamine, 2 galactose, 5 mannose, 1
       fucose, and 1 sialic acid residue; it was linked through the
       amide group of asparagine in a peptide Gln-Gln-Phe-Asn-Ser-Thr-Ile-
       Arg within the Fc fragment of the mol.
AN     1972:459855  HCAPLUS <<LOGINID::20080902>>
DN     77:59855
OREF   77:9913a,9916a
TI     Oligosaccharide units of rabbit immunoglobulin G.  Multiple carbohydrate
       attachment sites
AU     Fanger, M. W.; Smyth, D. G.
CS     Natl. Inst. Med. Res., London, UK
SO     Biochemical Journal (1972), 127(5), 757-65
       CODEN: BIJOAK; ISSN: 0264-6021
DT     Journal
LA     English
```

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=> file stnguise
'STNGUISE' IS NOT A VALID FILE NAME
SESSION CONTINUES IN FILE 'HCAPLUS'
Enter "HELP FILE NAMES" at an arrow prompt (=>) for a list of files
that are available.  If you have requested multiple files, you can
specify a corrected file name or you can enter "IGNORE" to continue
accessing the remaining file names entered.

=> file stnguide
COST IN U.S. DOLLARS                              SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                   19.49      25.31

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)        SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                   -2.40      -2.40

FILE 'STNGUIDE' ENTERED AT 17:28:10 ON 02 SEP 2008
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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 29, 2008 (20080829/UP).

=> file hcaplus
COST IN U.S. DOLLARS                              SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                    0.06      25.37

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)        SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                    0.00      -2.40

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FILE COVERS 1907 - 2 Sep 2008  VOL 149 ISS 10
FILE LAST UPDATED: 1 Sep 2008  (20080901/ED)

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reclassification data for the second quarter of 2008.

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 This file contains CAS Registry Numbers for easy and accurate
 substance identification.
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```
=> s acid
L15    4664798 ACID

=> s l12 and l15
L16       92 L12 AND L15

=> file stnguide
COST IN U.S. DOLLARS                             SINCE FILE      TOTAL
                                                     ENTRY     SESSION
FULL ESTIMATED COST                                   2.69       28.06

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)       SINCE FILE      TOTAL
                                                     ENTRY     SESSION
CA SUBSCRIBER PRICE                                   0.00       -2.40

FILE 'STNGUIDE' ENTERED AT 17:29:16 ON 02 SEP 2008
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=> file hcaplus
COST IN U.S. DOLLARS                             SINCE FILE      TOTAL
                                                     ENTRY     SESSION
FULL ESTIMATED COST                                   0.12       28.18

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)       SINCE FILE      TOTAL
                                                     ENTRY     SESSION
CA SUBSCRIBER PRICE                                   0.00       -2.40

FILE 'HCAPLUS' ENTERED AT 17:30:17 ON 02 SEP 2008
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FILE COVERS 1907 - 2 Sep 2008  VOL 149 ISS 10
FILE LAST UPDATED: 1 Sep 2008  (20080901/ED)

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the second quarter of 2008.

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 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> s capric or lauric or myristic or palmitic or stearic or arachic or behenic or
oleic
```

```
              6255 CAPRIC
             20076 LAURIC
             16240 MYRISTIC
             42544 PALMITIC
             76090 STEARIC
               547 ARACHIC
              5138 BEHENIC
             71101 OLEIC
L17    157350 CAPRIC OR LAURIC OR MYRISTIC OR PALMITIC OR STEARIC OR ARACHIC
                OR BEHENIC OR OLEIC

=> s l16 and l17

L18          0 L16 AND L17

=> file stnguide
```

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FILE 'STNGUIDE' ENTERED AT 17:30:19 ON 02 SEP 2008
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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 29, 2008 (20080829/UP).

=> file hcaplus
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FILE 'HCAPLUS' ENTERED AT 17:30:38 ON 02 SEP 2008
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FILE COVERS 1907 - 2 Sep 2008  VOL 149 ISS 10
FILE LAST UPDATED: 1 Sep 2008  (20080901/ED)

HCAplus now includes complete International Patent Classification (IPC)
```

reclassification data for the second quarter of 2008.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> s l12 and l17

L19   0 L12 AND L17